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Citation: McSweeney, Lorraine, Wilson, Janet, Wilkes, Scott and Haighton, Katie (2018) Is Scottish Intercollegiate Guidelines Network guidance for GP management of tonsillitis suitable? A qualitative study. *Family Practice*, 35 (5). pp. 633-637. ISSN 0263-2136

Published by: Oxford University Press

URL: <https://doi.org/10.1093/fampra/cmy017> <<https://doi.org/10.1093/fampra/cmy017>>

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1 **Is SIGN Guidance for GP management of tonsillitis suitable? A qualitative study.**

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14 **Key messages**

- 15 • GPs are enacting current guidance and referred patients have an expectation of tonsillectomy
- 16 • GPs feel patients may be denied access to tonsillectomy by the current stringent criteria
- 17 • GPs are unlikely to refer patients to ENT unless it is requested

18 **Abstract**

19 *Background*

20 The Scottish Intercollegiate Guidelines Network developed guidelines for the management of sore
21 throat and indications for tonsillectomy in 1999 to address concerns of unnecessary surgery.
22 Emergency admissions to hospital for tonsillitis have since increased. Adults experience an average
23 of 27 episodes of tonsillitis before undergoing tonsillectomy. We wished to explore the
24 appropriateness of the guidance and/or its implementation in primary care

25 *Aim*

26 To explore the attitudes of GPs to the referral criteria they use when managing adults presenting with
27 acute tonsillitis.

28 *Design*

29 Secondary analysis of qualitative data from the National Trial of Tonsillectomy in Adults (NATTINA)
30 feasibility and process evaluation.

31 *Participants and setting*

32 Twenty-one GPs from practices throughout the UK.

33 *Method*

34 In-depth interviews GPs concerning both the feasibility and process evaluation phases of NATTINA.
35 Analysis was conducted using the Framework method.

36 *Results*

37 General practitioners felt it was rarely necessary to refer patients. They were aware of guidelines and
38 would refer if requested by a patient who fulfilled the guidelines criteria and/or who were missing
39 considerable amounts of work.

40 *Conclusion*

41 The introduction of the guidelines appears to coincide with what some may have hoped to be a
42 desired effect of reducing adult sore throat referrals and subsequent tonsillectomies by increasing the

43 number of episodes a patient must suffer before the referral threshold is met. GPs may find equipoise
44 for tonsillectomy referral challenging as many patients, express a strong preference for surgery. We
45 believe this paper reinforces GP professionalism, patient-centred consultations and challenges the
46 role of clinical guidelines.

47 **Keywords**

48 General Practice, Family Practice, Tonsillitis, Tonsillectomy, Referral and Consultation

49 **Background**

50 Recurrent adult tonsillitis is a debilitating condition with an annual UK incidence of 37 per 1000 ¹.
51 Patients' experiences of recurrent sore throats impinge significantly on lifestyle through incapacitating
52 physical symptoms and impact on work, family and social life ². Excessive absences from work can, in
53 turn, effect productivity, promotion status and even employability ³. Patients describe how absences
54 have triggered formal work enquiries and episodes of 'struggling on' at work while not 'feeling one
55 hundred per cent' ². Tonsillectomy, the surgical treatment for recurrent tonsillitis, is a painful
56 procedure ⁴ requiring two weeks off work ^{5,6}, but with evidence from the Glasgow Benefit Inventory ⁷,
57 patients report significant quality of life benefit ^{1,3,7}. Available evidence reveals tonsillectomy to be an
58 effective treatment resulting in decreased medical resource utilisation and missed work days^{3,8-12}.
59 Nonetheless, despite being one of the most commonly performed surgical procedures in the UK ¹, the
60 clinical evidence for adult tonsillectomy remains unclear ¹³.

61 The National Health Service (NHS) spends over £120 million annually on sore throats, including £60
62 million on General Practitioner (GP) consultations and medical therapy ². Decision-making for
63 recurrent sore throats is largely in primary care where there is greatest potential for evolution in the
64 patient pathway. In the 1990s, concerns were raised that many tonsillectomies were unnecessary with
65 NHS cost and patient morbidity consequences ¹⁴. In response, the Scottish Intercollegiate Guidelines
66 Network (SIGN) developed SIGN 34 in January 1999 ¹⁴. SIGN 34 outlines appropriate indications for
67 tonsillectomy in both children and adults with recurrent tonsillitis. ¹⁵ The indications for tonsillectomy
68 remained unchanged in 2010 (SIGN 117) ¹⁴. The aim of clinical guidelines is that their use will reduce
69 inappropriate practice and improve efficiency ¹⁶. The aim of the SIGN 34 guidelines and criteria for
70 consideration of referral for tonsillectomy are shown in box 1.

71

<p>Aim</p> <p><i>'To suggest a rational approach to the management of acute sore throat in general practice and to provide criteria for referral for tonsillectomy in recurrent tonsillitis...the guideline is not intended to be construed or to serve as a standard of care. Standards of care are determined on the basis of all clinical data available for an individual case and subject to change as scientific knowledge and technology advance and patterns of care evolve. The ultimate judgement must be made by the appropriate healthcare professional(s).'</i>^{15, p.2}</p>
<p>Criteria</p> <ul style="list-style-type: none">• <i>'Surgical management – tonsillectomy is recommended for recurrent severe sore throat in adults'</i>• The following are recommended as indications for consideration of tonsillectomy for recurrent sore throat in both children and adults:<ul style="list-style-type: none">○ <i>'Sore throats are due to acute tonsillitis'</i>○ <i>'The episodes of sore throat are disabling and prevent normal functioning'</i>○ <i>'Seven or more well documented, clinically significant, adequately treated sore throats in the preceding year'</i>or○ <i>'Five or more such episodes in each of the preceding two years'</i>or○ <i>'Three or more such episodes in each of the preceding three years'</i>^{15, p.15}

73

74 The uncertainty surrounding the role of adult tonsillectomy for recurrent sore throat is compounded by
75 UK primary care restrictions of referrals for treatments they deem to be of limited clinical value with
76 tonsillectomy ranked top as a 'relatively ineffective' procedure¹⁷. In 2009 ENT UK highlighted
77 increasing emergency admissions for tonsillitis and its complications, and suggested that too few
78 tonsillectomies were being undertaken. The body further pointed out that the UK had the lowest
79 tonsillectomy rates in Europe¹⁴. A study conducted in 2013¹⁴ analysed the trends in population rates
80 of tonsillectomy and hospital admissions for tonsillitis and peritonsillar abscess in England, Scotland
81 and Wales following the SIGN guideline implementation¹⁴. It was reported that the population rate of

82 tonsillectomy in Wales reduced over the study period and in England between 2003 and 2010 but not
83 in Scotland during these time periods. The authors concluded that the implementation of the SIGN
84 guidelines may have had different results on different cohorts. They also identified potential
85 confounding variables, notably antibiotic prescribing ¹⁴.

86 As part of the NATional Trial of Tonsillectomy IN Adults (NATTINA) feasibility study ^{2,18} and the main
87 NATTINA trial process evaluation ¹⁹, GPs were interviewed on their views of the sore throat patient
88 pathway process and treatment as well as of the NATTINA trial.

89 **Objectives**

90 The aim of this NATTINA qualitative work stream was to evaluate the appropriateness of the SIGN
91 34/117 guidelines and the impact on patients' referral to ENT.

92 **Methods**

93 *Design*

94 Secondary analysis of in-depth qualitative interviews with GPs from both the NATTINA feasibility
95 study and process evaluation.

96 *Setting and sample*

97 In the feasibility study, a convenience sample of GPs located in the original nine UK NATTINA trial
98 sites were identified by the Clinical Investigator (CI) and local site ENT consultants. In the process
99 evaluation, a purposive sample of GPs who had patients taking part in the NATTINA trial were
100 identified through trial records. Sample size was determined by reaching data saturation whereby no
101 new themes emerged in three consecutive interviews²⁰. All GPs were contacted by LM and provided
102 with a participant information sheet before being invited to participate in a telephone interview. Verbal
103 consent was taken at the time of the interview and signed written consent returned post-interview.

104 *Interviews*

105 Semi-structured interviews were based on flexible topic guides derived from the literature, issues
106 raised by the NATTINA Patient and Public Involvement group and in conjunction with the study
107 otolaryngologist and GP (available on request). Themes explored included: effects and management
108 of recurrent sore throat, treating sore throats, and referral process. This paper reports findings

109 concerning the referral process including the use of the SIGN guidelines ¹⁵ to determine their
110 acceptability and appropriateness for ENT referral for tonsillectomy.¹⁵

111 *Data management and analysis*

112 Interviews were digitally audio-recorded and transcribed verbatim. Framework analysis, which is
113 defined by a matrix output: rows (cases), columns (codes) and 'cells' of summarised data ²¹, was
114 adopted as a recommended approach for qualitative health research with objectives linked to
115 quantitative investigation ²². Using a framework method allows for transparency of coding and the
116 analysis is designed so that it can be viewed and assessed by other members of the team as well as
117 the primary analyst ²². NVivo software was used to aid coding ²³. Data were repeatedly read and
118 coded by LM within a framework of a priori issues, those identified by participants or which emerged
119 from the data. To minimise researcher bias, emergent themes were discussed with the qualitative
120 lead (CH) and the study team. Findings from the feasibility study and the process evaluation were
121 collated as similar themes relating to the referral process and SIGN guidelines were apparent. Each
122 theme discussed is represented here by a single illustrative quote.

123 **Results**

124 *Participants*

125 In total 21 GPs were interviewed. In the feasibility trial 39 GPs were contacted by email or telephone,
126 12 (31%) responded and consented to be interviewed. Of the 39 contacted, 1 stated they were
127 unavailable, 25 (64%) did not respond and, 2 email addresses were not recognised. In the main trial
128 181 GPs were contacted either by telephone call to the practice or by letter inviting them to participate
129 in an interview. Nine GPs (5%) consented to an interview. Of the 181 contacted, 17 GPs responded
130 citing they were unable to participate due to time constraints, 5 GPs had left the practice/retired, 2
131 patients had left the practice, 4 practice managers acted as gate-keepers denying access and there
132 were 142 non-responders (78%).

133

134 ***GP Referral process emergent themes***

135 The findings are grouped by the main themes; a selection of GP responses are presented after each
136 section in boxes.

137 GPs adhere to usual surgery practice

138 There was an overwhelming sense that GPs very rarely referred patients to Ear, Nose and Throat
139 (ENT) departments for consideration of a tonsillectomy; this was considered to be normal practice.

140 There was variation in antibiotic prescribing practice for recurrent sore throats, however most seemed
141 to discourage their use. The need to record the number of episodes of sore throat was discussed as
142 was a requirement to determine the aetiological cause of the sore throat (bacterial or viral). GPs
143 spoke extensively about using Centor Criteria ²⁴ or throat swabs for antibiotic use; and SIGN
144 guidelines if a referral was considered necessary or requested by the patient. Patients were mostly
145 encouraged to self-manage their symptoms.

146 Box 2: GPs adhere to usual surgery practice quotations

"People are aware we don't give antibiotics anymore unless there are specific indications for it"

"Our practice like them to self-manage, treat yourself first...referral is very rare".

*"Then we do swabs, especially if people are mentioning that they want referral for
tonsillectomy...that's what I certainly would do"*

147

148 GPs have negative views of tonsillectomy

149 Discussion of adult tonsillectomy procedures elicited fairly negative responses. Tonsillectomy was
150 viewed as a dangerous, painful procedure with negative consequences. There was a belief that not
151 only would patients be reluctant to go through or expect the procedure but that the procedure was
152 rarely performed. However, there were a minority who believed that those patients with chronic
153 recurrent tonsillitis were getting the treatment they needed. Furthermore, thinking of patients who had
154 had a tonsillectomy, one GP reported his patients as being glad to have gone through with the
155 procedure however, this was an isolated view.

156

157 Box 3: GPs have negative views of tonsillectomy quotations

“There’s a fatality associated with tonsillectomy...so it’s not something to be taken lightly”

“ENT are quite reluctant to take tonsils out”

“I don’t think that tonsillectomies are being done as often as they used to be. Patients don’t seem to be expecting them as often”

“You’re just putting somebody at risk. So, I’m aware that tonsillectomy is not something which is done lightly and I try and say to people. So, I hardly ever refer”

158

159 *GPs only refer on patient request, if their work is affected and if they fit the criteria*

160 GPs were asked to consider what might be the trigger for a referral to ENT. Conversations about
161 referrals were most likely to be initiated by the patient. If a patient requested a referral the GP would
162 consider the number of bacterial throat infections suffered, how much time the patient had missed
163 from work and/or education and whether they had required frequent courses of antibiotics. GPs were
164 asked if they felt patients had an expectation of surgery; some felt that patients would start mentioning
165 surgery after suffering a few episodes. Patients who ‘fit the criteria’ through the required number of
166 episodes or those whose episodes were ‘*making their life a complete and awful misery*’ would be
167 considered for a referral. However, the recording of episodes and ‘fitting’ of the criteria posed further
168 challenges. Some GP practices required medically recorded number of episodes, whilst others
169 accepted the patient’s self-monitored records. This produced difficulties for the GP to accurately
170 quantify episodes to compare with the referral criteria. Moreover, the differentiation of the types of
171 sore throat episodes – bacteria or viral also complicated recording of episodes.

172

173 Box 4: GPs only refer on patient request, if their work is affected and if they fit the criteria quotations

“Usually the patient will request to be seen...it’s not something I would generally offer”

“That is a driver, when they are off work a lot”

“Some people think they’re going to get surgery after two or three bouts...that’s not going to happen”

“If they fit the criteria, I would never have any qualms about referring them”

“It can be difficult to quantify when patients are using various different clinical settings to get their treatment”

“They’ll count viral sore throats as an episode of tonsillitis and then they might be pushing towards treatment”

174

175 GPs demonstrate knowledge of SIGN and local guidelines

176 Despite GPs stating that they rarely referred recurrent sore throat patients to ENT there was an
177 awareness of the SIGN guidelines. Most GPs stated they would have to refer to guidelines to remind
178 them of the criteria but were able to name some details. The use of ‘quick reference’ guides was
179 favoured and were found to be useful as a quick edited version. GPs also often referred to ‘local’
180 guidelines which are based on the SIGN guidelines but may differ slightly between clinical
181 commissioning groups and NHS boards.

182 Although the criteria for tonsillectomy referral between SIGN 34 and SIGN 117 remained
183 unchanged¹⁴, there was a perception that the threshold criteria had changed. GPs may have been
184 referring to local guidelines; however there was some uncertainty over the perceived ‘changes’ as to
185 where they originated.

186

187 Box 5: GPs demonstrate knowledge of SIGN and local guidelines quotations

"I'm aware of things like the SIGN guideline group looking at the treatment of tonsillitis and tonsillectomy...and on rare occasions perhaps indications for referring someone"

"Well I can't remember exactly the details of the SIGN guidelines, but I think the essence is if they're getting like more than 6 episodes a year and it's being disruptive with school or with their work...those would be the main markers in my mind"

"Most of what we do would be guided, I suppose, essentially through what the local department's guidelines are"

"I know the threshold is much higher than it used to be...I work on a rule of thumb of 6 episodes of acute tonsillitis in a year"

"It might well just be based on the SIGN guidance, in which case it's not changed, we're just being given a message that it's more difficult when actually it's the same"

188

189 GPs only refer to ENT for a consultation

190 Despite GPs feeling that some patients had an expectation of surgery, there was an emphasis that
191 any referral to ENT would be for a specialist opinion only. Several GPs reported that any referral
192 letters which were sent to ENT would clearly state that they were requesting an opinion on the
193 patient's condition despite them believing the patient had fulfilled the SIGN or local criteria.

194 Box 6: GPs only refer to ENT for a consultation quotations

"If they want a referral, I would talk to them about how it's not my decision on having the tonsils removed, it still depends on the consultant and their team...so it's a referral rather than a referral for a tonsillectomy"

"I don't see them referring them up for a tonsillectomy, I see them referring them up for an opinion about whether it would be appropriate or not"

195

196 **Conclusions**

197 The findings from this qualitative study indicate that referral to ENT was an uncommon occurrence.

198 GPs appeared quite negative about the role surgery had in the treatment of tonsillitis. The process of

199 documenting sore throat episodes was problematic, with some practices accepting patient-recorded
200 episodes and other requiring the aetiology of the sore throat to be determined and medically
201 recorded. It was apparent that GPs were increasingly using throat swabs to differentiate viral from
202 bacterial infections. There was some consensus among the GPs that the thresholds for referral had
203 become more stringent.

204

205 Previous qualitative work highlights the issue of tonsillectomy being classed as a procedure of 'limited
206 clinical value' and of NHS practice boards encouraging GPs to reduce referral rates for such
207 procedures ². Moreover, perhaps due to this pressure, GPs are required to follow a rigorous vetting
208 process in the form of local and national guidelines for the treatment of recurrent sore throat. The
209 SIGN guidance ¹⁵ and ENT UK Commissioning guide for tonsillectomy ²⁵ both highlight the need for
210 significant sore throat symptoms to be documented prior to referral and recommend seven or more
211 documented episodes in the preceding year as one criteria. However, NICE guidance ²⁶ recommend
212 that adults should be referred if they have had five, not seven or more episodes in the previous year.
213 The guidance for throat swabs is also mixed; NICE state that throat swabs have poor sensitivity with
214 expensive analysis techniques ²⁶, whereas the SIGN guidance report that swabs may be used to
215 establish aetiology of recurrent severe episodes when considering referral for tonsillectomy ¹⁵.
216 Furthermore, it is acknowledged that the differentiation of the aetiology in practice is difficult as a
217 patient will not always present to the GP with sore throat symptoms ²⁶. The ENT UK commissioning
218 guide state that 'a fixed number of episodes may not be appropriate for children and adults with
219 severe or uncontrolled symptoms' ²⁷. A recent study exploring the morbidity associated with recurrent
220 tonsillitis reported, that on average, patients are having to wait 7 years with an average of 27
221 episodes of tonsillitis before 'achieving' tonsillectomy ¹. Otolaryngologists surveyed in Scotland in
222 2004 agree with our GPs that thresholds for referral had become more stringent ²⁸. It would seem that
223 patients are having to face many barriers and years of suffering severe symptoms in the process ¹⁸.
224 Guideline development groups have been criticised for failing to take into account the overall picture
225 presented by a body of evidence and to apply sufficient judgement to the overall strength of the
226 evidence base and its applicability to the target population of the guideline ²⁹. Moreover, it has been
227 reported that guideline users can be unclear about the implications of the grading system with the
228 grade of the recommendation being misinterpreted as relating to its importance, rather to the strength

229 of the supporting evidence ²⁹. A particular criticism of SIGN 34 is its failing to consider the impact of
230 the disease process (tonsillitis) on the patient's quality of life and the severity of the symptoms ²⁸.

231 It was reported that despite GPs only referring patients whom they felt fulfilled the guideline criteria,
232 they did not give their patient the expectation that they would automatically receive a tonsillectomy.
233 This is contrary to previous work; patients felt they had to wait a significant period of time to be
234 referred to ENT. Having already discussed the possibility of further treatment (usually a tonsillectomy)
235 with their GP; the expectation that they would then receive surgery was high ¹⁸.

236 *Implications for practice*

237 Although the introduction of the guidelines set a criterion for where tonsillectomy might be considered,
238 it would seem the focus for referral is weighted heavily on the number of episodes a patient must
239 suffer. As critics of the guidelines have alluded to, this does not consider the impact of the disease on
240 the patient's quality of life. The GPs in this study acknowledged that a referral would not normally be
241 considered without the patient raising the subject. GPs may find equipoise for tonsillectomy referral
242 challenging as many patients, having waited so long, will express a strong preference for surgery. We
243 believe this paper reinforces GP professionalism, patient-centred consultations and challenges the
244 role of clinical guidelines.

245 *Strengths and limitations*

246 This study comprised a large qualitative sample (n=21) of difficult to recruit GPs. However, their views
247 may not be representative of all GPs and perhaps those who volunteered to take part had an interest
248 in the treatment of recurrent tonsillitis.

249 **Funding**

250 The research was funded by MRC and managed by NIHR on behalf of the MRC–NIHR partnership.
251 The views expressed in this publication are those of the authors and not necessarily those of the
252 MRC, NHS, NIHR or the Department of Health (HTA 12/146/06).

253

254 **Ethical approval**

255 Favourable ethical opinion was given by proportionate review subcommittee of the NRES committee
256 – Fulham, London, 16 June 2014 (14/LO/1115). Transcriptions were anonymised and treated with

257 strictest confidence. All identifying information was removed by giving each participant a unique code
258 which was used to attribute comments during analysis.

259 **Conflict of interests**

260 None to declare.

261 **Acknowledgements**

262 The research team would like to thank the GPs, research staff and study site teams for their
263 contribution to this study.

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